BIOGRAPHICAL SKETCH

Marie-Pascale Lelong
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a) Professional Preparation

• University of Washington, Seattle WA	Mathematics/Physics	B.Sc.	1981
• University of Washington, Seattle WA	Applied Mathematics	M.Sc.	1983
• University of Washington, Seattle WA	Applied Mathematics	Ph.D.	1989
• NCAR , Boulder CO	Advanced Study Postdoc Fellow		1989-1992

b) Appointments

- Affiliate Professor, School of Oceanography University of Washington, 2016-present
- Member of Board of Directors, NorthWest Research Associates, 2014-present
- Senior Research Scientist, NorthWest Research Associates, 2004-present
- Affiliate Professor, School of Marine Sciences, University of Massachusetts-Dartmouth, 2012-present
- Affiliate Associate Professor, Department of Mechanical Engineering, University Washington, 2004-2012
- Research Scientist, NorthWest Research Associates, 1994-2003
- Visiting Oceanographer at l'Institut de Mécanique de Grenoble, France, 1992-1993
- Advanced Study Program Postdoctoral Fellow, National Center for Atmospheric Research, 1989-1992

c) Activities

- Oral presentation, 8th International Symposium on Stratified Flows, San Diego, September 2016
- Invited speaker, Royal Society Meeting on Stratified Turbulence in the 21st Century, March 2016
- Oral presentation at AGU Ocean Sciences, New Orleans February 2016
- Seminar, Physical Oceanography, University of Washington, February 2016
- Invited speaker, Conference on the Mathematics of Layers and Interfaces, CMO-BIRS, November 2015
- Presentation at APS-Fluid Dynamics Conference, San Francisco November 2014.
- Invited speaker, Nonlinear Effects in Internal Waves Conference, Cornell University, June 2014
- Co-organizer (with Sung Yong Kim, Miles Sundermeyer and Cédric Chavanne) of a session *on* submesoscale processes at the AGU-Ocean Sciences Meeting, Honolulu HI, March 2014.
- Seminar, Department of Mathematics, University of Wisconsin-Madison, April 2014
- Invited speaker, Workshop on Sub-mesoscale Ocean Processes, Fields Institute, University of Toronto, June 2013

- Seminar, WHOI, May 2013
- Invited professor, Univ. of Paris VI, France (hosted by Pascale Bouruet-Aubertot), October 2012.
- ONR-LatMix cruise (on science advising team), Sargasso Sea (21 days) on *Cape Hatteras*, James Ledwell, chief scientist, June 2011
- Invited professor, Univ. of Paris VI, France (hosted by Pascale Bouruet-Aubertot), April 2011
- Hammerhead Test Cruise on *Strickland* as part of ONR-LatMix in Sanich Inlet, British Columbia, Canada, Eric Kunze Chief Scientist, April 2011
- Oral presentation, Chapman Conference on Atmospheric Gravity Waves and their Effects on General Circulation and Climate, Honolulu HI, March 2011
- Recipient of Editor's Award for reviews in Journal of Physical Oceanography, 2010
- Lecturer, Mechanical Engineering, Univ. of Washington, 2-quarter graduate-level applied mathematics course (ME 564-ME 565), academic year 2008-2009
- Invited speaker, IUTAM Symposium on Turbulence in the Atmosphere and Oceans, Newton Institute, Cambridge, UK, Dec. 2008
- Guest editor with T.J. Dunkerton of a Special Issue of the Journal of the Atmospheric Sciences entitled, "Spontaneous Internal Wave Emission in Atmospheric and Oceanic Flows", 2008.
- Invited professor, Univ. of Grenoble, France (hosted by Chantal Staquet), July 2007
- Invited professor, Univ. of Paris VI, France, Jan.-Feb. 2007 (hosted by Pascale Bouruet-Aubertot)
- Member of local organizing committee for APS-Fluid Dynamics Conference, Seattle WA, November 2006.
- Organizer with T.J. Dunkerton of NWRA and NSF-sponsored Workshop on Spontaneous Imbalance #1: Perspectives from Atmospheric and Oceanic Dynamics, August 2006, Univ. of Washington, Seattle WA
- Talk at the Geophysical Turbulence Workshop on Coherent Structures in Atmosphere and Ocean, NCAR, Boulder CO, July 2005
- Lecturer, Mechanical Engineering, Univ. of Washington, 2-quarter graduate-level applied mathematics course (ME 564-ME 565), academic year 2004-2005
- 2 talks (one invited) at IUGG, Sapporo Japan, July 2003
- Lecturer, Applied Mathematics, Univ. of Washington, 1-quarter undergraduate-level partial differential equation course (AMATH 353), 2001.
- Visiting scientist at Service Hydrodynamique de la Marine (SHOM), Brest France, (hosted by Yves Morel), September 2000-February 2001
- Talk at IUTAM Symposium on Developments in Geophysical Turbulence, Boulder CO, June 1998

d) Community Service

- Reviewer for *Journal of Fluid Mechanics, Physics of Fluids, Journal of Physical Oceanography, Journal of the Atmospheric Sciences, Ocean Modelling, Geophysical Review Letters, Journal of Geophysical Research,*1992-present
- Panelist for NSF-CMG Program (Collaboration in Mathematical Geosciences), 2007 and 2010.

- Volunteer math tutor at middle school and high school levels, Seattle Public Schools, 2002-present.

d) Publications

- Lelong, M.P., Bouruet-Aubertot, P. and Y. Cuypers, 2016: Near-inertial energy propagation inside a Mediterranean anticyclonic eddy, 2016: *J. Phys. Oceanogr***.** *in preparation and available upon request*
- Lelong, M.-P., J.J. Early and E. Kunze, 2016: Submesoscale lateral dispersion in a field of weakly nonlinear internal waves. *J. Phys. Oceanogr*., *in preparation and available upon request*
- Jacobs, J., M.-P. Lelong and M.A. Sundermeyer, 2016: Instability, dipole formation and merging of two proximal vortices of geostrophic adjustment. *J. Phys. Oceanogr*., *in preparation and available upon request*
- Shcherbina, A., M. A Sundermeyer, E. Kunze, E. A. D'Asaro; G. Badin, D. A. Birch, A.-E. G. Brunner-Suzuki;,J. Callies, B. T. Kuebel Cervantes, M. Claret, B. Concannon, J. Early, R. Ferrari;, L. Goodman, R. R. Harcourt, J. M. Klymak, C. M. Lee, M.-P. Lelong, M. D. Levine, R.-C. Lien, A, Mahadevan, J. C. McWilliams, M. J Molemaker, S. Mukherjee, J. D. Nash, T. Özgökmen, S. D. Pierce, S. Ramachandran, R. M. Samelson, T. B. Sanford, R. K. Shearman, E. D. Skyllingstad, K. S. Smith, A. Tandon, J. R. Taylor, E. A. Terray, L. N. Thomas, J. R. Ledwell 2015: The LatMix summer campaign: Submesoscale stirring in the upper ocean*, B. Am. Meteorol. Soc.* 96 (8), 1257-1279.
- Brunner-Suzuki, A.-M.E.G, M.A. Sundermeyer and M.-P. Lelong, 2014: Upscale energy transfer by the vortical mode and internal waves, *J. Phys. Oceanogr*., 44 (9), 2446-2469.
- Haza, A.C., T.M. Özgökmen, A. Griffa, A.C. Poje and M.-P. Lelong, 2014: How does drifter position uncertainty affect ocean dispersion estimates? *J. Atmos. Ocean Tech.,* 31 (12), 2809-2828.
- Lelong, M.P and E. Kunze, 2013: Can barotropic-current/eddy resonant interactions excite internal waves?, *J. Fluid Mech*., 721, 1-27.
- Brunner-Suzuki, A.-M.E.G, M.A. Sundermeyer and M.-P. Lelong, 2012: Vortex stability in a large-scale internal wave shear, *J. Phys. Oceanogr.,* 42 (10), 1668-1683.
- Bouruet-Aubertot, P., H. Van Haren and M.P. Lelong, 2010: Stratified inertial subrange as inferred from in situ measurements in the bottom boundary layer of Rockall Channel, *J. Phys. Oceanogr*. 40, 2401-2417.
- Lelong, M.-P. and E. Kunze, 2008: Generation of an internal tide by surface tide/eddy resonant interactions, *Turbulence in the Atmosphere and Oceans*, 39-49. Springer.
- Lelong, M.-P. and M.A. Sundermeyer, 2005: Numerical simulations of the adjustment of a single diapycnal mixing event, *J. Phys. Oceanogr*., 35 (12), 2352-2367.
- Sundermeyer, M. A. and M.-P. Lelong, 2005: Numerical simulations of lateral dispersion by the relaxation of diapycnal mixing events, 35 (12), 2368-2386.
- Riley, J.J. and M.P. Lelong, 2000: Fluid motions in the presence of strong stable stratification. Vol. 32, *Annu. Rev. Fluid Mech*.

- Lelong, M.-P., T.J. Dunkerton and D.S Darr, 1999: Near-inertial wave generation on an unsteady ocean current. *Dynamics of Oceanic Gravity Waves II*. Aha Hulikoa Press.
- Dunkerton, T.J., D.P. Delisi and M.-P. Lelong, 1999: Correction to Alongslope current generated by obliquely incident internal gravity waves. *J. Geophys. Res. Lett. 26 (8)* 1185-1187.
- Lelong, M.-P. and T.J. Dunkerton, 1998a: Breakdown of Inertia-Gravity Waves, part 1: convectively stable waves. *J. of Atmos. Sci*., 15, 2473-2488.
- Lelong, M.-P. and T.J. Dunkerton, 1998b: Breakdown of Inertia-Gravity Waves, part 2: convectively unstable waves. *J. of Atmos. Sci.,* 15, 2489-2501.
- Dunkerton, T.J., D.P. Delisi and M.-P. Lelong, 1998: Alongslope current generated by obliquely incident internal gravity waves. *J. Geophys. Res. Lett*. 25 (20), 3871-3874.
- Riley, J. J., M.-P. Lelong and D.S. Slinn, 1991: Organized structures in strongly stratified flows, *Dynamics of Oceanic Gravity Waves II*. Aha Hulikoa Press
- Lelong, M.P. and J.J. Riley, 1991: Wave/Vortical Mode Interactions in Strongly-Stratified Flows. *J. of Fluid Mech.*, 232, 1-19.
- Lelong, M.-P., J.J. Riley and C. Staquet, 1990: A study of wave-vortex interactions in density-stratified fluids. Chapter in Stratified Flows, 408-417.
- Criminale, W.O. and M.-P. Lelong, 1986: Optimal expulsion from sea brine. *J. Geophys. Res., 89 (C3), 3581-3585.*

e) Unpublished manuscripts (available upon request)

- Lelong, M.-P. and P. Bouruet-Aubertot, 2011: The energetics of breaking inertia-gravity waves.
- Lelong, M.-P. and J.C. McWilliams, 1993: Cyclostrophic and geostrophic adjustment.

f) Professional Memberships

- American Geophysical Union
- American Meteorological Society
- Society of Industrial and Applied Mathematics

f) Recent Collaborators

- Pascale Bouruet-Aubertot (Univ. Parix VI, LOCEAN, France)
- Yannis Cuypers (Univ. Paris VI, LOCEAN, France)
- Jeffrey Early (NWRA)
- Eric Kunze (NWRA)
- Jonathan Lilly (NWRA)
- Miles Sundermeyer (Univ. Massachusetts, Dartmouth)
- Gerardo Hernandez-Dueñas (UNAM, Mexico)
- Leslie Smith (University of Wisconsin)

g) Graduate and Postdoctoral Advisors

- PhD Advisor: James J. Riley (Univ. of Washington)
- Postdoctoral Advisor: James C. McWilliams (UCLA)

h) Graduate and undergraduate Advisees

- Cimarron Wortham, NWRA, postdoctoral advisor 2016-
- Michael Dunphy, PhD student Mathematics, Univ. of Waterloo, Ontario, Canada, external examiner, September 2014

- Joshua Jacobs, PhD student, Applied in Mathematics, Univ. of Washington, co-chair with Prof. Randy LeVeque, 2007-2012
- Anne-Marie Brunner-Suzuki, PhD student, UMass-Dartmouth, committee member 2010-2012
- Cheryn Engebrecht, Masters student, Mechanical Engineering, Univ. of Washington, 2008-present
- Sylvain Beaufils, Ecole Normale Supérieure-Cachan, France, 3-month internship, May-July 2009
- Brieg Keribin, Ecole d'Ingénieurs de Brest, France, 2-month internship, July-August 2009
- Melissa Vellela, NSF-sponsored VIGRE internship, summer 2005
- Mahdi Ben Jelloul, PhD student, Ecole Normale Supérieure Paris France, external examiner 2001.